WHAT IS CLAIMED IS:

1. A method for state sensing of a technical system, the technical system being an energy store, the method comprising:

measuring at least one performance quantity;

supplying the at least one measured performance quantity to a state estimation routine for determining at least one state variable characterizing a current system state using a model based on at least one system-dependent model parameter and the at least one measured performance quantity; and

supplying the at least one measured performance quantity to a parameter estimation routine to determine the at least one system-dependent model parameter depending on a use to improve a state estimation;

wherein a selection of at least one of the at least one state variable characterizing the current system state and the at least one system-dependent model parameter determined by estimation depends on a dynamic response of the at least one measured performance quantity.

2. The method of claim 1, wherein at least one of the at least one state variable and ones of the at least one system-dependent model parameter not selected is one of unchanged and set again by fixed predetermined models.

3. The method of claim 1, wherein:

at a high dynamic response of the at least one measured performance quantity, ones of the at least one state variable having small time constants and ones of the at least one system-dependent model parameter having small time constants are selected for estimation; and

at a low dynamic response, ones of the at least one state variable having large time constants and ones of the at least one system-dependent model parameter having large time constants are selected for estimation.

4. The method of claim 1, further comprising:

determining before an estimation determination whether the technical system is in a limit state at one of a beginning and an end of a service life of the technical system, wherein at least one of the at least one state variable state and the at least one system-dependent model parameter is not selected if the technical system is in the limit state.

5. The method of claim 1, wherein a quality of an estimation is checked based on a covariance matrix.

6. The method of claim 1, wherein at least one of the at least one state variable and the at least one system-dependent model parameter is used only if associated covariances of the covariance matrix converge.

7. A device for state sensing of a technical system, the technical system being an energy store, the device comprising:

a measuring arrangement to measure at least one performance quantity of the energy store;

a supplying arrangement to supply the at least one measured performance quantity to a state estimator to determine at least one state variable characterizing a current system state using a model based on at least one system-dependent model parameter and the at least one measured performance quantity;

a parameter estimator to determine the at least one system-dependent model parameter depending on a use to improve a state estimation, the at least one measured performance quantity being supplied to the parameter estimator;

a detecting arrangement to detect a dynamic response of the at least one measured performance quantity; and

a selection unit connected to the detecting arrangement to select at least one of ones of the at least one state variable and ones of the at least one system-dependent model parameter determined in at least one of the state estimator and the parameter estimator depending on the dynamic response.

8. The device of claim 7, further comprising:

a calculating arrangement to calculate a covariance matrix for at least one of the at least one state variable and the at least one system-dependent model parameter; and

an evaluating arrangement to evaluate the covariance matrix.

9. A computer program for being executed on at least one of a computer, a state estimator and a parameter estimator, the computer program comprising:

program code operable to perform a process for state sensing of a technical system, the technical system being an energy store, the process including:

measuring at least one performance quantity;

supplying the at least one measured performance quantity to a state estimation routine for determining at least one state variable characterizing a current system state using a model based on at least one system-dependent model parameter and the at least one measured performance quantity; and

supplying the at least one measured performance quantity to a parameter estimation routine to determine the at least one system-dependent model parameter depending on a use to improve a state estimation;

wherein a selection of at least one of the at least one state variable characterizing the current system state and the at least one system-dependent model parameter determined by estimation depends on a dynamic response of the at least one measured performance quantity.

10. A computer program product for being executed on at least one of a computer, a state estimator and a parameter estimator, the computer program comprising:

a computer-readable data carrier storing program code that is operable to perform a process for state sensing of a

technical system, the technical system being an energy store, the process including:

measuring at least one performance quantity;

supplying the at least one measured performance quantity to a state estimation routine for determining at least one state variable characterizing a current system state using a model based on at least one system-dependent model parameter and the at least one measured performance quantity; and

supplying the at least one measured performance quantity to a parameter estimation routine to determine the at least one system-dependent model parameter depending on a use to improve a state estimation;

wherein a selection of at least one of the at least one state variable characterizing the current system state and the at least one system-dependent model parameter determined by estimation depends on a dynamic response of the at least one measured performance quantity.

11. The method of claim 1, wherein the at least one state variable is supplied to the parameter estimation routine.

12. The device of claim 7, wherein the at least one state variable is supplied to the parameter estimator.